

FAO/WFP CROP AND FOOD SECURITY UPDATE MISSION TO CAMBODIA

REPORT

17 April 2012



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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, ROME



WORLD FOOD PROGRAMME, ROME

1. EXECUTIVE SUMMARY

In September and October 2011 Cambodia was affected by one of the worst floods since 2000. According to Government reports, heavy monsoon rains and the consequent overflowing of the Mekong and Tonle Sap rivers resulted in widespread flooding, affecting over 1.5 million people, displacing 214 000, as well as causing the loss of 247 lives. The floods also had a significant impact on the agricultural sector, damaging over 400 000 hectares of paddy fields, as well as transport and agricultural infrastructure, including irrigation systems.

In view of the extensive flood damage, an FAO/WFP crop and food security update mission was fielded in the country between 30 January and 5 February 2012 to review the overall food supply situation and to evaluate possible food assistance requirements during the 2012 marketing year (January/December).

The findings of the mission are based on the analysis of existing secondary data, discussions with key Government departments and information from UN agencies, the Asian Development Bank, traders/dealers of key agricultural inputs and a few selected farmers. A brief field visit to Kandal Province was undertaken by the mission with supporting evidence gathered by field staff in various provinces.

Despite an expansion of area planted to paddy in the wet season (June to February) in 2011, the impact of the floods reduced the actual area harvested to levels below that of 2010. However, an increase in yields, per harvested hectare, more than compensated for the smaller area harvested. Favourable rainfall throughout the country (barring the flood prone areas), increased use of fertilizer and use of improved seeds contributed to the rise in yield levels. As a result, national paddy production increased by 2.3 percent for the wet season, relative to 2010's output. In addition, the dry season paddy crop, generally harvested in March-April, which has become increasingly important since the late 1990s, is anticipated to contribute some 24 percent to the aggregate annual rice production for 2011/12. Given the abundance of residual surface and soil moisture, and silt deposits, the overall prospects for the dry season are generally favourable.

Thus, in spite of the flood damage, the total paddy harvest for 2011/12 agricultural year is estimated at a record level of 8.78 million tonnes of paddy (equivalent to 5.62 million tonnes of milled rice), 6.4 percent higher than the previous year's bumper output.

The total utilization requirement is estimated at 3.56 million tonnes of milled rice, leaving a potential exportable surplus of 2.06 million tonnes or equivalent to 3.21 million tonnes of paddy.

At the national level, overall availability of rice is satisfactory. However, at the household level, access to a stable, sufficient and diverse diet remains a challenge and is manifested in the high levels of chronic and acute child malnutrition.

In addition to the chronic dimensions of food insecurity and malnutrition, at least 60 000 households in the 18 flood-affected provinces, or roughly 25 percent of flood-affected households in those provinces, were made food insecure in the immediate and short term as a result of the recent floods, according to rapid assessment findings from NCDM and WFP. Many of these, particularly the poorest households, will require additional food and non-food assistance in the recovery and rehabilitation period and lean season prior to the next wet season rice harvest. Rehabilitation of the damaged farm infrastructure should also be considered as an urgent priority.

In the short- and medium-term, the mission recommends scaling up of targeted social safety net programmes to enhance coping capacities, protect assets and increase income and access to food among the poorest and most vulnerable households, including those most affected by the recent floods. Furthermore, ongoing efforts to strengthen and expand multi-sectoral, community-based nutrition

programmes, focusing on the critical window of opportunity from conception until two years of age, are essential to address the multiple causes and high levels of malnutrition. Nationwide scale up of priority health sector nutrition interventions, including micronutrient supplementation, management of acute malnutrition and communication on infant and young child feeding practices and expansion of food fortification initiatives to improve the nutritional status of the entire population are also critical actions. Improving hygiene and sanitation practices, given most households' poor access to adequate sanitation facilities, is a key to improve nutrition outcomes of Cambodian children.

The mission also recommends that the rice development strategy, emphasising increased production and exports of the commodity, should be examined with consideration of the full environmental costs as well as the long term sustainability of the rice production system. In this regard, adoption of conservation agriculture, crop rotation, diversification and other sustainable production practices should be examined. Also, efforts to generate credible values of various parameters used in the preparation of the food balance sheet are recommended in order to improve accuracy and reliability of estimates of food supply, utilization and exportable surplus and/or import requirements.

2. MACRO-ECONOMY AND AGRICULTURE SECTOR

Cambodia's economy has performed solidly in the last five years with the annual gross domestic product (GDP) growth averaging about 6 percent. The per capita GDP, measured using the purchasing power parity (PPP) method, has been steadily increasing and is estimated at USD 2 170 in 2011 (Table 1). Nonetheless, poverty remains a significant problem, given that 30.1 percent of the population was estimated to be under the poverty line in 2007, with a high prevalence in rural areas (Cambodia Socio-Economic Survey [CSES], 2007). More recent data from the Ministry of Planning (Commune Database 2010) suggests that 25.8 percent of the population is poor. According to the 2009 CSES data, 33 percent of Cambodians are undernourished as compared to 37 percent in 2004. The nation is ranked 139th out of 187 countries on UNDP's human development index in 2011, lower than Viet Nam and Lao People's Democratic Republic, but higher than Bangladesh and Myanmar.

Table 1: Cambodia - Key economic indicators, 2007-2011

	2007	2008	2009	2010	2011 est.
Real GDP growth (%)	10.2	6.7	0.1	5.9	7.8
GDP per capita (USD at PPP)	1 824	1 957	1 946	2 051	2 170
Total Merchandise Exports (USD mill.)	4 089	4 708	4 302	5 143	6 071
Total Merchandise Imports (USD mill.)	5 471	6 509	5 876	6 791	8 185
Total Trade Deficit (USD million)	1 382	1 801	1 574	1 648	2 114
Consumer Price Inflation (%)	14.0	12.5	5.3	3.1	4.9
Share of Agriculture in GDP (%)	26.7	26.8	28.0	29.0	29.0
Growth in Agriculture Sector (%)	5.1	5.7	5.4	4.5	3.3

Sources: Economist Intelligence Unit; IMF; Ministry of Commerce and Ministry of Agriculture, Forestry and Fisheries, Cambodia; Economic Institute of Cambodia (<http://www.eicambodia.org>).

Although total trade has been rising over the years, the total merchandise trade deficit has also climbed steadily. The majority of the trade is with the ASEAN countries, USA and China. The main export items include - textiles and clothes, rubber and other products, processed wood and other raw agricultural products such as cassava, rice and maize; the five major export destinations are the - USA, Singapore, EU, Canada and Viet Nam. The main imports - industry inputs and consumer products, are sourced primarily from China, Viet Nam, Thailand, the Republic of Korea and Singapore.

Agriculture is an important sector in Cambodia with an estimated 85 percent of the population dependent on farming as their main source of household food and income security. Based on the NIS data, agriculture's contribution to the national GDP steadily declined from 34.4 percent in 2001 to 26.7 percent in 2007. There has been a turnaround since, with the share of agriculture in the national income

amounting to 29 percent in 2009. Cambodia is well endowed with natural resources, including forests, inland and coastal fisheries, a wide diversity of agricultural zones, suited to a range of crops and livestock. Its topography is largely low-lying, centring on Tonle Sap lake, which expands considerably in size each year during the rainy season. The Tonle Sap and the Mekong river systems provide important source of water for dry season cultivation and for inland fishery.

Since 2008, the promotion of the agriculture sector has been considered an important part of the Government's development strategy with a subsequent Government Policy paper in 2010 putting emphasis on improving paddy production and rice exports. The current rice sector development strategy emphasizes raising production and exports of the commodity. However, many paddy-producing areas rely heavily on monoculture cultivation or continuous paddy-after-paddy production system. Yields are supported by the usage of higher and higher chemical fertilizers in order to compensate for the declining soil fertility. Therefore, there is need to re-examine this strategy by taking account of total environmental costs as well as the long term sustainability.

3. CROP, LIVESTOCK AND FISHERIES PRODUCTION

3.1 Rainfall pattern and floods in 2011/12

The rainy season started on time in April/May 2011 over most regions of the country, remaining at a normal to below-normal level during the first three months of the agricultural season. However, rains picked-up between August and October, reaching high levels in September and resulting in the overflowing of the Mekong and Tonle Sap rivers, which caused severe flooding, especially in the south-central parts of the country (Figures 1 and 7). Overall, the pattern of rainfall during the 2011 wet season was favourable in most areas of the country.

Since the beginning of the dry season in November, precipitation has been generally near the long term average in most regions of the country. However, much of the crop in this season is irrigated and the water levels in rivers and reservoirs are significantly higher than last year.

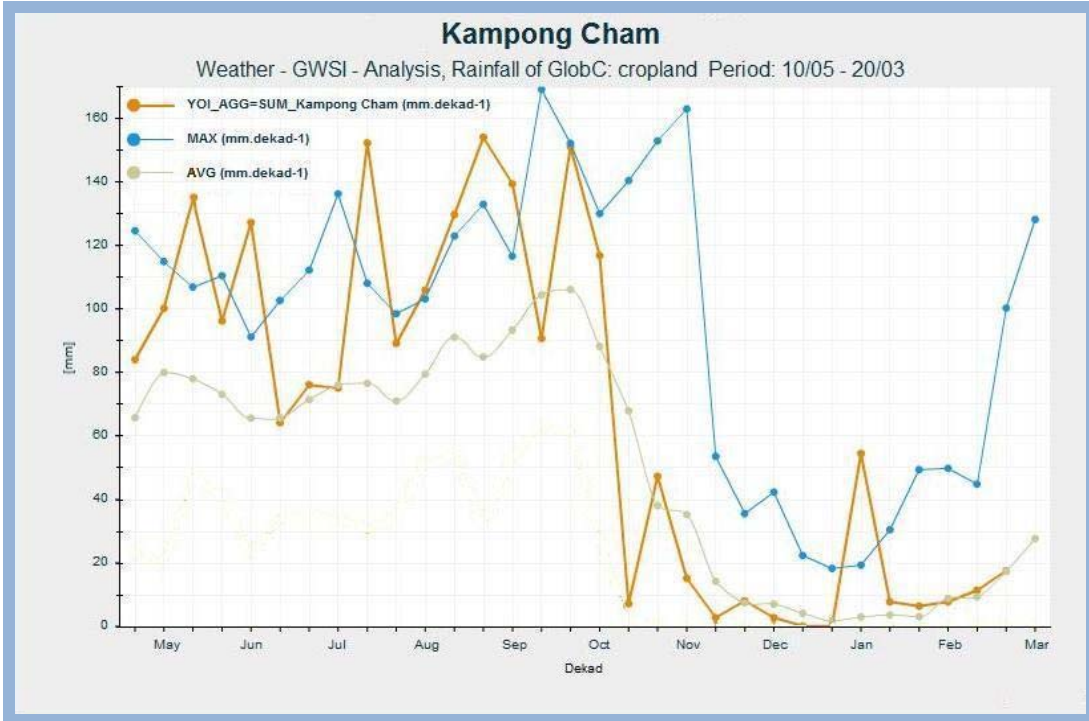
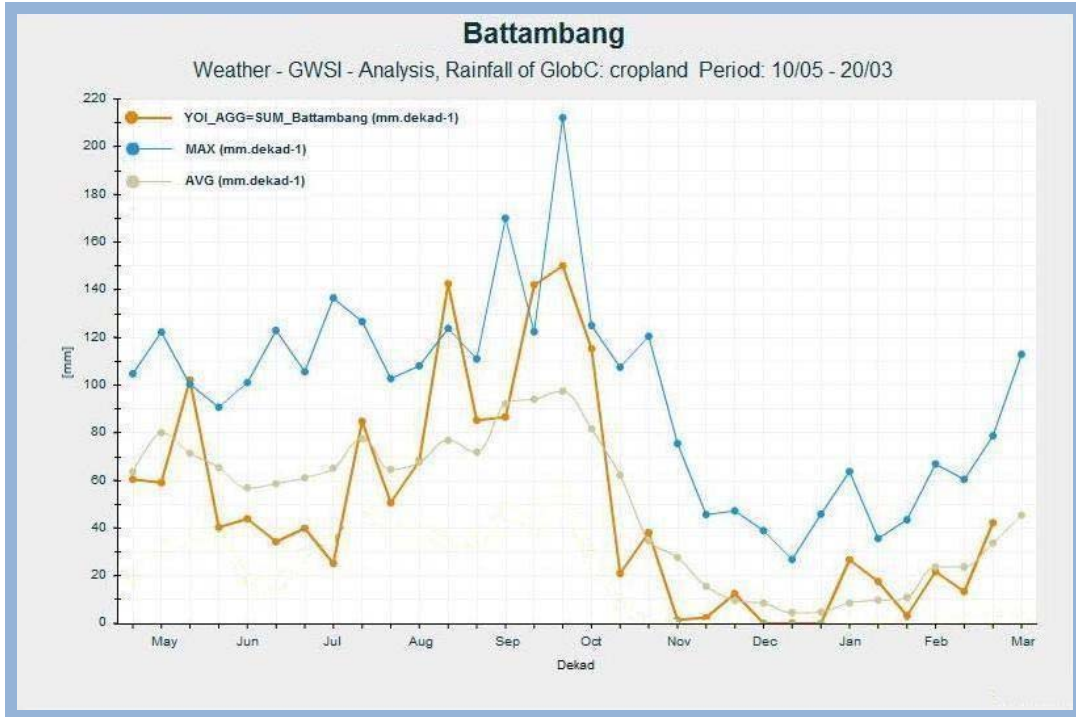
Annual flooding is a normal phenomenon in the Mekong and Tonle river plains during the monsoon season from July to October. Historical records indicate that since 1999, the intensity and frequency of floods have increased considerably (the Cambodian Centre for Studies and Development of Agriculture, CEDAC)¹. In Cambodia, there were major floods in 2000, 2001, 2009 and 2011. On the other hand, severe droughts have also been more frequent during this period (CEDAC).

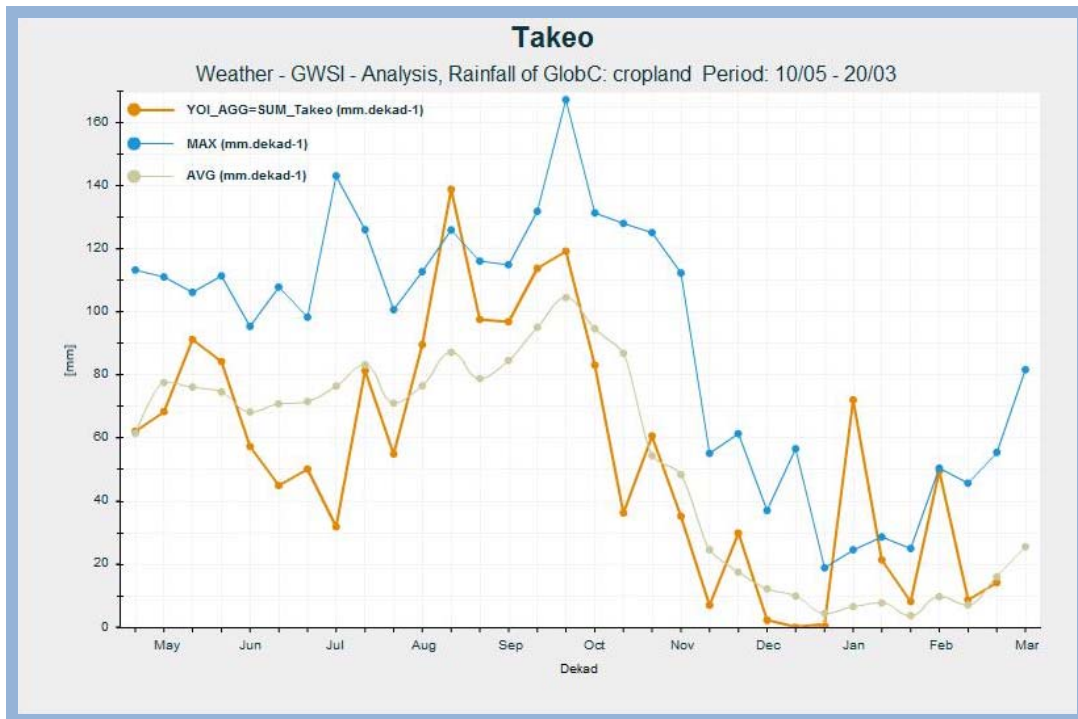
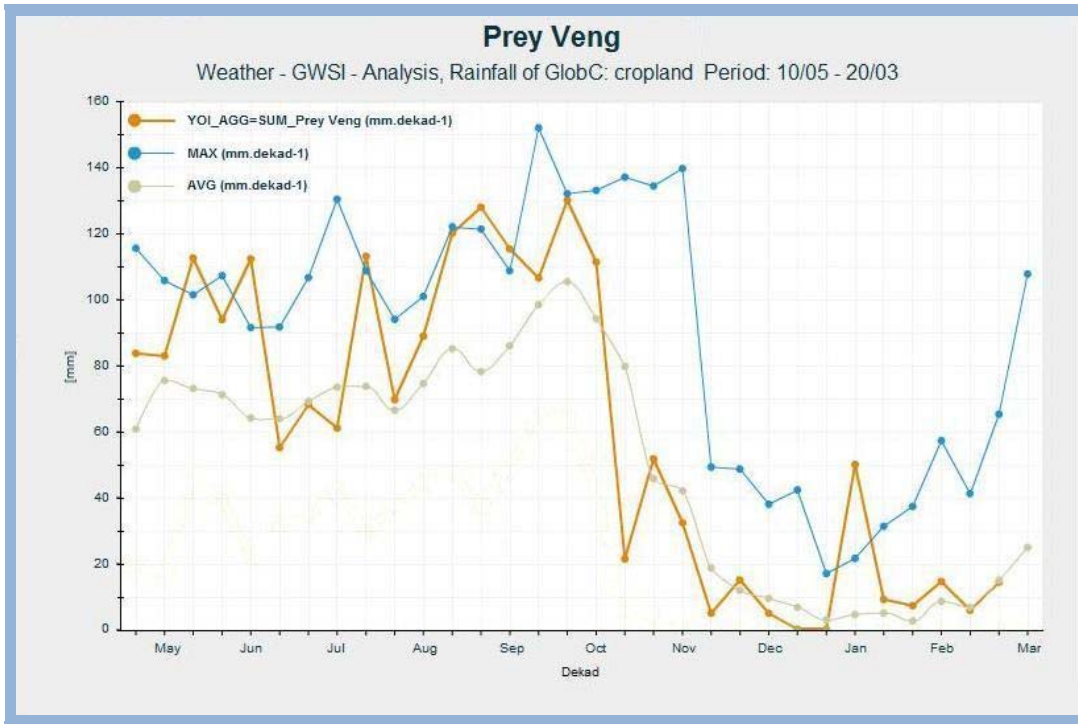
According to the National Committee for Disaster Management (NCDM), the floods in September-October 2011 affected 431 476 hectares of rice fields, including 267 184 hectares being severely damaged from the main wet season. The total affected area represents about 17 percent of the total cultivated area to wet season paddy in 18 of the 24 provinces. Particularly affected were the provinces of Kandal, Kampong Thom, Prey Veng and Kampong Cham.

Although the floods this year caused extensive damage to property, infrastructure and paddy fields, there was also a residual beneficial effect in terms of river silt, which enhanced soil fertility in remaining rice areas. Heavy rains were also beneficial to the areas surrounding the flood plains.

¹ CEDAC. Assessment of local authorities and communities practices and information needs to face disasters Report from surveys in Ba Phnom and Peam Ro districts, Prey Veng Province, Cambodia, a Working Paper, Nov. 2005.

Figure 1: Cambodia - Rainfall (mm) in four main rice-growing provinces, from 1st dekad of May 2011 to 1st dekad of March 2012, in comparison with the long-term (1989-2011) average





Source: GIEWS analysis based on JRC/MARSOP web Tool.

3.2 Paddy area

The total area planted to rice for the 2011/12 wet season increased by 4.4 percent, to 2.5 million hectares, continuing the increasing trend since 2002. However, taking into account the flood damage

and some restoration and replantings, the estimated area harvested was 3.3 percent lower than the previous year, but above average of the previous five years. The dry season paddy cultivation is estimated to reach 471 960 hectares, 16.6 percent higher than the previous year.

3.3 Irrigated area

According to the Ministry of Water Resources and Meteorology (MOWRAM), with the given emphasis on development of irrigation schemes in the past five years (2004-2008), the irrigation area has reached 773 188 hectares in the wet season and 347 058 hectares in the dry season. Thus, a total of 1.12 million hectares or about 30 percent of the 3.5 million hectares of the total cultivation area are potentially irrigable. However, the area actually irrigated is believed to be much lower, some 20 to 25 percent (CEDAC, 2008)².

3.4 Paddy production in 2011/12

The majority of farm households are engaged in rice production. The most important rice-growing areas include the provinces of Prey Veng, Takeo and Kampong Cham in the South East; Battambang, Banteay Meanchey and Siem Reap in the North West and Kampong Thom in the Centre. In normal years, these provinces account for approximately 65 percent of the aggregate national production. The main wet season for rice generally spans from June to February. The wet season's aggregate national paddy production, which depends entirely on rainfall, is estimated to account for 76 percent of the annual paddy production and about 84 percent of planted paddy area in 2011/12.

The national paddy production for 2011/12, including the early estimate for the current minor season (dry season), is estimated at a record level of 8.78 million tonnes, some 6.4 percent above the bumper crop of 8.25 million tonnes achieved in 2010/11. The floods reduced the area harvested. However, an increase in yields more than compensated the reduced area harvested, resulting in the increase in total paddy production of the wet season by 2.3 percent over the same season last year. The yield increase was mainly due to the overall favourable rainfall throughout the country and increased use of fertilizer and improved seeds.

The secondary season (dry season) generally starts in November and concludes in April. Over the years, the share of the area planted to the dry season paddy in the annual total has steadily increased from about 11 percent during late-1990s to about 16 percent currently. Similarly, the contribution of production has increased from about 17 to 24 percent during the same period. Based on the available data from MAFF the 2011/12 dry season paddy production is estimated at 2.1 million tonnes from an area of 471 960 hectares.

² For example, an assessment carried out by the Cambodian Centre for Studies and Development of Agriculture (CEDAC) in 2008.

Table 2: Cambodia - Comparison between 2011/12 and 2010/11 national aggregate food crop production ('000 tonnes)

Commodities	2010/11			2011/12			% Change 2011/12 over 2010/11		
	Wet Season	Dry Season	Total	Wet Season	Dry Season ^{1/}	Total	Wet Season	Dry Season	Total
Cereals									
Rice	6 549	1 701	8 249	6 700	2 079	8 779	2.3	22.2	6.4
Maize	672	101	773	646	71	717	-3.9	-29.7	-7.3
Roots and tubers									
Cassava	3 981	268	4 249	7 240	793	8 034	81.9	196.1	89.1
Sweet Potatoes	55	25	79	30	16	47	-44.6	-33.8	-41.2
Other food crops									
Mung Bean	50	22	72	51	25	76	3.6	13.3	6.5
Soya Bean	154	3	157	112	2	115	-27.1	-8.2	-26.9
Sesame	29	1	30	30	3	33	5.7	159.6	11.9
Groundnut	19	3	22	20	3	23	4.5	0.6	4.0
Vegetables	234	143	377	230	170	400	-1.6	19.1	6.2

^{1/} Early estimate of Dry Season 2011/12.

Source: Ministry of Agriculture, Forestry and Fisheries, Cambodia.

3.5 **Subsidiary and industrial crops**

The significant subsidiary and industrial crops include cassava, followed by maize, vegetables, soya beans and mung beans. Cassava has now become the second most important crop in terms of the total area cultivated reaching 391 714 hectares, 90 percent above the previous year (Table A1 in Annex 1). This increase is mainly attributed to favourable prices at wet season planting time and the increasing international demand from the starch industry. Area planted under maize, on the other hand, is estimated to decline by about 40 000 hectares. The national maize production this year is forecast to decrease to 717 188 tonnes, or by 7.3 percent from the previous year's above average level mainly due to the considerable drop in area planted. Besides cassava, natural rubber is an important industrial crop, grown on plantations of about 180 000 hectares in 2010.

A small area of total agricultural land is used for vegetable production. While not important in terms of quantities, such crops are of great importance to household nutrition and food security through cash earnings. Sweet potatoes, sugar cane, sesame and groundnuts are also grown mainly in areas with a high population density such as the provinces of Kandal, Kampong Cham and Kampong Speu.

3.6 Livestock and poultry sub-sector



Animal husbandry represents a significant agricultural activity; livestock and poultry production represented 15.3 percent of the total agricultural GDP in 2009, which is a similar level to the previous five years. Animal production also contributes to poverty reduction and food security, especially for the smallholders, while buffaloes and cattle also provide draught power. Table 3 presents the evolution of the livestock sector in Cambodia. Overall, cattle numbers have increased steadily over the years with poultry numbers growing the most, by about 37 percent and the cattle numbers by just over one percent between 2007 and 2011. The rising demand for poultry products in Cambodia is consistent with a similar rise of the sector in other countries of the region. Buffalo and swine numbers, on the other hand, have decreased by 11 and 12 percent respectively, during the last five years.

Table 3: Cambodia - Livestock numbers, 2007 to 2011

	Cattle	Buffalo	Swine	Poultry
2007	3 368 449	772 780	2 389 389	15 825 314
2008	3 457 787	746 207	2 215 641	16 928 075
2009	3 579 882	739 646	2 126 304	28 486 237
2010	3 484 601	702 074	2 057 431	20 677 397
2011	3 406 972	689 829	2 099 332	21 619 148
% change				
2011/2010	-2.2%	-1.7%	2.0%	4.6%
2011/2007	1.1%	-10.7%	-12.1%	36.6%

Source: Department of Animal Production and Health, Cambodia.

3.7 Fisheries and aquaculture sub-Sector

Fisheries is an important sector in Cambodia as the contribution from harvesting, processing and trade accounts for 8 to 12 percent of GDP and provides a means of livelihood to some 6 million people (Fisheries Administration, MAFF). Fish and its products provide about 82 percent of animal protein in the Cambodian diet with the annual per capita consumption of about 52.4 kg, one of the highest in the world (Mekong River Commission). Table 4 shows the evolution of the fisheries and aquaculture in Cambodia. The overall fish catch has increased steadily over the years by about 23 percent between 2007 and 2011. The biggest increase, over 100 percent, has been in aquaculture, followed by the total catch from marine fishery. However, over-fishing is one of the major problems facing the sub-sector and

the Government has unveiled recently “the Strategic Planning Framework for Fisheries: 2010-2019” to develop this subsector sustainably while meeting the food security needs of the dependent population. In recent years large-scale fisheries activities are curtailed by reducing the fishing season and implementing a ban on large-scale commercial fish lots.

Several hydropower dams are planned in different countries covering the Mekong river basin. Some studies³ have concluded that the dams will affect the freshwater fisheries by blocking the fish migration and reducing the population and catch significantly. This development is expected to have a severe negative impact on food security, especially of the poor fisheries dependent population, particularly in Cambodia.

Table 4: Cambodia - Fisheries production 2007 to 2011, tonnes

	Inland Fishery	Marine Fishery	Aquaculture	Total
2007	395 000	63 500	35 260	493 760
2008	365 000	66 000	39 100	470 100
2009	390 000	75 000	50 080	515 080
2010	405 000	85 000	60 001	550 000
2011	445 000	91 000	72 000	608 000
% change				
2011/2010	9.9%	7.1%	20.0%	10.5%
2011/2007	12.7%	43.3%	104.2%	23.1%

Source: Fisheries Administration (FiA), Diary, Department of Fisheries, MAFF, Cambodia.

4. FOOD SUPPLY/DEMAND SITUATION

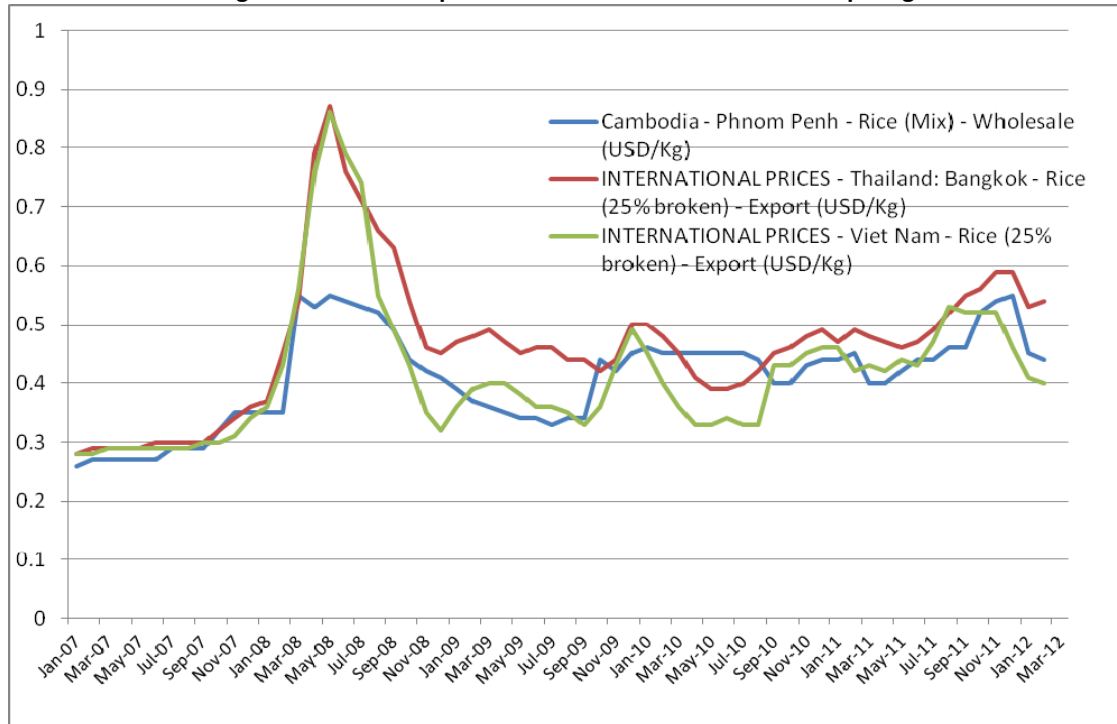
4.1 Prices and access

In October and November 2011, monthly wholesale price of mixed rice in Phnom Penh in USD terms (see Figure 2) increased by 13.4 percent and 4.5 percent respectively due to the impact of the floods in the major rice producing areas and seasonality. Rice prices are typically at their annual high immediately before the main wet season harvest in November but in 2011 the price increase during the lean season was amplified due to the floods. However, with the start of the main wet season harvest and official estimates of bumper harvest combined with a temporary import ban on Cambodian paddy by Thailand and lower demand for paddy from Viet Nam rice prices declined from its peak in December by 23 percent in March 2012. Although the March price is more or less at the same level as 12 months before there has been significant price variability during the year. Given the annual inflation rate of 5.8 percent prices in real terms in January 2012 were slightly below their levels of last year for the same month in most markets.

Rice prices in Cambodia closely follow regional rice prices Vietnamese prices in particular as the high volume of informal paddy export from Cambodia to Viet Nam and Thailand results in a strong price transmission.

³ For example, see “Trading-off fish biodiversity, food security, and hydropower in the Mekong River Basin” by Guy Ziv et al., *Proceedings of the National Academy of Sciences*, 2012.

Figure 2: Wholesale price of mixed rice 2010-2012 in USD per kg



Sources: Cambodia Agricultural Market Information System www.agriculturalmarketinformation.org.kh and Jackson Son & Co. (London) Ltd. Thai Department of Foreign Trade and other public sources.

In March 2012, the Vietnamese 25 percent broken white rice prices decreased by 3.3 percent on a month-on-month basis and 10 percent on a year-on-year basis. The bumper summer/autumn crop in Viet Nam resulted in the all-time high rice production in 2011 continuing to put downward pressure on rice prices. Additionally, the Viet Nam Food Association lowered the minimum export prices repeatedly since December in order to protect market shares.

Thai white rice prices in USD terms increased by 1.9 percent month-on-month in February and again in March by same amount as the Thai government extended its rice pledging policy which was to end on 29 February 2012 to the end of June to cover the second crop. The Government will continue to purchase domestic paddy at 50 percent above market prices putting an upward pressure on prices. Additionally the strengthening of the Thai Baht contributed to the increase in prices in USD.

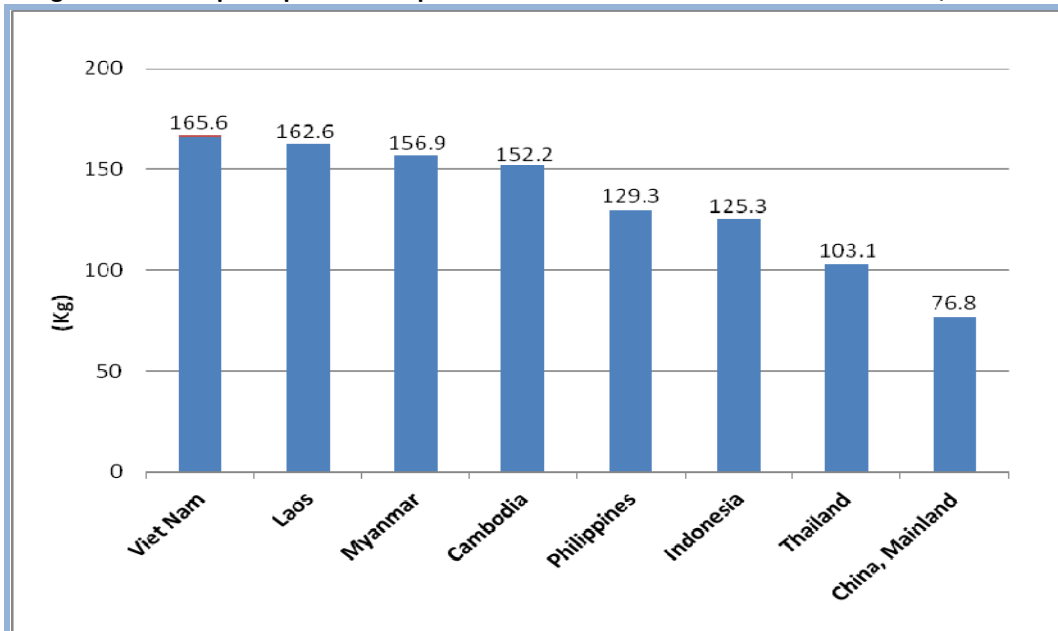
4.2 Food supply/demand balance for 2012

The food supply demand balance sheet for the 2012 marketing year (January/December) based on the harvest of 2011 wet season and 2012 dry season is constructed using the following assumptions and is presented in Table 5.

- **Population** - The official census population in 2008 was estimated at 13.868 million. The National Institute of Statistics (NIS) projections use an annual growth rate of 1.57 percent for 2009 gradually reduced to 1.53 percent in 2012. Based on the latest official projections from NIS a mid-year population of 14 741 414 in 2012 is used in this report.
- There is no consensus on the actual **per capita consumption** of cereals in Cambodia. The rice balance sheet prepared by the MAFF uses 143 kg per person as the average annual rice consumption and other Government figures indicate 153 kg. This later figure is similar to the

estimates published by FAOSTAT at 152.2 kg for 2007. The FAOSTAT data can be used to compare per capita consumption in Southeast Asian countries (Figure 3). At 153 kg consumption in Cambodia is below that of Viet Nam, Lao PDR and Myanmar but above the Philippines and Thailand. Hence, there is need for a more reliable survey based estimate. For the purpose of this balance sheet the following per capita consumption requirements are used: rice 153 kg, maize 5 kg, wheat 3 kg and soybeans 8 kg. The maize and wheat rates are derived from the FAO/GIEWS estimates of the apparent average annual consumption during the past five years. Soybean per capita consumption is based on the assumption of zero net trade and stock change.

Figure 3: Annual per capita consumption of rice in selected Far East Asian countries, 2007



Source: FAOSTAT.

- The **seed rate** for rice differs with varieties quality of seed and the system of planting. In general, for rice raised in nurseries and then transplanted the seed rate is around 65 kg per hectare around 80-100 kg/ha is used when the crop is sown by mechanical seeder, while 150-250 kg when hand broadcasting is used. For the purposes of analysis an average seed rate of 95 kg/ha of rice equivalent to about 150 kg of paddy) for a projected dry and wet season rice area of 3 million hectares in 2012/13 is assumed. In rice equivalent this would amount to 281 000 tonnes. This amount corresponds with the seed retention rate of 5 percent of total production used in a paper produced by the Ministry of Commerce and UNDP⁴.
- The physical **post harvest losses** in Southeast Asia are estimated to be around 15 to 20 percent by the International Rice Research Institute (IRRI)⁵. MAFF uses 13 percent figure in its rice food balance sheet to cover post harvest losses and seed use. This is generally considered to be an underestimation, especially when one considers seed retention rate of about 5 percent. Hence, a physical loss of 15 percent of rice paddy is used in this report. The post harvest losses for maize, wheat and soybeans are assumed at 15, 10 and 5 percent respectively based on previous CFSAM and other sources.

⁴ Rice Sector Profile, 2008 by Value Chain Information Unit, Trade Promotion Department, Ministry of Commerce, Cambodia. Seed retention rate based on Development Alternatives Inc.

⁵ Post harvest technology for national rice self-sufficiency and improving farmers' livelihoods. Martin Gummert, IRRI (2007).

- A **milling ratio** of paddy to rice is assumed to be 64 percent same as the one currently used by MAFF.
- According to the Department of Animal Production and Health (2010), the four major feed companies licensed in the country supplied 165 000 tonnes of feed in 2009. An additional 60 000 tonnes were allowed to be imported to meet the local demand. Given the rise of the poultry sector over the years the use of maize as feed is important. With a trend line increase in **feed use** over the last ten years a lump sum amount equivalent of 250 000 tonnes of maize is assumed for 2012. For rice similar to the estimate published by the Value Chain Unit of the Ministry of Commerce feed use of 3 percent of annual production is used.
- No reliable information on the **opening and closing stocks** held by the private sector traders and farmers is available. Hence in this balance sheet a plausible assumption of no significant change in the private stocks is made with a possible small stock build-up of maize. However, given the stated goal of the Government to build grain reserves, 15 000 tonnes is inserted in the balance sheet to reflect this probable scenario.

Table 5: Cambodia - Food balance sheet 2012 (January/December) (in '000 tonnes)

	Rice (milled) ^{1/}	Maize	Wheat	Total Cereals	Soybeans in cereal eqv. ^{2/}	Total
DOMESTIC AVAILABILITY	5 619	717	0	6 336	132	6 468
Wet season production	4 288	646	0	4 934	132	5 067
Dry season production	1 331	71		1 402	0	1 402
TOTAL UTILIZATION	3 563	469	44	4 076	132	4 208
Food use	2 255	74	44	2 373	122	2 495
Feed use	169	250		419		419
Seed requirement	281	32		313	4	318
Post harvest losses	843	108		950	7	957
Stock change at year end (buildup+/drawdown -)	15	5		20		20
EXPORTABLE SURPLUS (+) /IMPORT REQUIREMENT (-)	2 056	248	-44	2 260	-0	2 260

^{1/} Paddy to rice milling rate of 64 percent.

^{2/} Soybeans cereal equivalent using a factor of 1.2.

* Figures may not add-up exactly due to rounding.

Based on the above-mentioned scenario with the given assumptions, the food balance sheet for 2012 suggests that the country is in surplus in most of the locally grown cereals producing an exportable surplus of about 2 million tonnes of rice (or equivalent to 3.2 million tonnes of paddy) and 248 000 tonnes of maize. Based on industry interviews and border observations, the World Bank estimated paddy exports to be about 1.86 million tonnes to Viet Nam and 328 000 tonnes to Thailand in 2009/10. Thus, given the record rice harvests in 2011 and in 2012, the potential exports of about 2 million tonnes of milled rice (or equivalent 3 million tonnes of paddy) for the current marketing year much of it through the informal cross-border channel seems plausible. Virtually all of the country's estimated wheat consumption requirement of 44 000 tonnes is anticipated to be met through commercial imports.

Although the cereal production at the national level shows relatively good food availability situation household level analysis is required to provide the nature and extent of food insecurity and undernourishment in different segments of the population as well as in different geographic areas in the country. The following sections, therefore, provide details of food insecurity, malnutrition and vulnerability situation in Cambodia.

5. HOUSEHOLD FOOD SECURITY AND VULNERABILITY ANALYSIS

5.1 Household food security and vulnerability analysis

Household food insecurity, undernourishment, and child malnutrition are significant concerns in Cambodia, despite a national surplus of rice and functioning, well-integrated markets. This is documented by several national household sample surveys including the recent Cambodia Demographic and Health Survey (CDHS 2010), the Cambodia Socio-Economic Surveys (CSES 2004 and 2009), the Cambodia Anthropometric Survey (CAS 2008), and the Cambodia Comprehensive Food Security and Vulnerability Analysis (CFSVA 2008).

The CFSVA 2008 was a nationally representative household survey designed to provide an in-depth picture of the food security situation and the vulnerability of households in Cambodia⁶. The survey recorded the consumption of common food items over a 7-day recall period for each household in the sample. Eleven percent of the population was classified as having “poor” or “borderline” food consumption based upon the frequency and diversity of food items consumed. Ninety-two percent of these households lived in rural areas; most of them were landless or land-poor, rely on agriculture alone, have limited cash-earning employment opportunities, and typically depend on seasonal casual wage labour.

The CFSVA also revealed that households employ a diverse range of strategies to cope with food shortages. The five most frequently reported strategies included:

- relying on less preferred and less expensive food items (22 percent of households);
- reducing the amount of food eaten in a day (10 percent of households);
- purchasing food on credit/incurring debt to obtain food (8 percent of households);
- seeking additional or alternative work (8 percent of households); and
- increasing exploitation of common property resources e.g., through fishing and foraging (7 percent of households).

The 2008 Cambodia Anthropometric Survey, which was conducted a few months after the CFSVA, had similar findings with respect to coping strategies and the frequency with which they were employed by households under stress.

Village leaders and other key informants reported that community-based assistance forms an important safety net in crisis periods. For instance, the community facilitates borrowing of rice or the lending of money to purchase rice. However, long-term strategies, such as assisting farmers to plant diverse varieties of rice, diversifying crop production, raising livestock, improving irrigation systems, or starting small business activities, were not reported.

5.2 Undernourishment

The proportion of the population in Cambodia that is undernourished fell from 37 percent in 2004 to 33 percent in 2009, according to a trend analysis of food consumption data from the 2004 and 2009

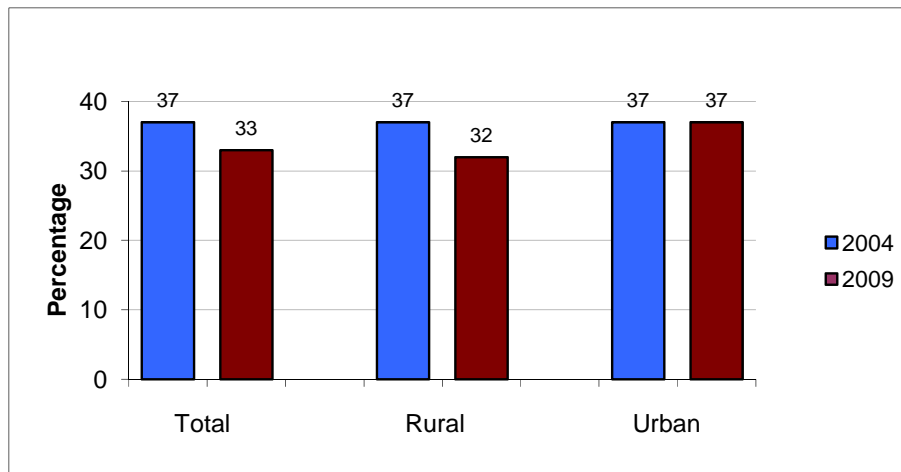
⁶ CFSVA, 2008. <http://documents.wfp.org/stellent/groups/public/documents/ena/wfp227417.pdf>

Cambodia Socio-Economic Surveys (CSES) conducted by the National Institute of Statistics and FAO⁷. A person is undernourished if their dietary energy consumption is continuously below the minimum dietary energy requirement (1 770 kcal/person/day in the case of Cambodia⁸) for maintaining a healthy life and carrying out a light physical activity with an acceptable minimum body-weight for attained-height. The proportion of the population that is undernourished is an indicator under Millennium Development Goal 1 – “Eradicating Extreme Poverty and Hunger”.

The prevalence of undernourishment at the national, rural and urban level is presented in Figure 4. In rural areas, the proportion of the population that was undernourished decreased from 37 percent in 2004 to 32 percent in 2009. Given that 90 percent of the population resides in rural areas, this represents a marked improvement. However, in urban areas, the proportion of the population that was undernourished, remained high and unchanged at 37 percent.

The poorest households, particularly net food buyers and those in urban areas, remain vulnerable to high food prices with little ability to cope with economic shocks. This is apparent in the inequitable distribution of undernourishment by wealth with the poorest households nearly 12 times more likely to be undernourished than the richest households (59 percent versus 5 percent, respectively).

Figure 4: Percentage of undernourishment by location rural/urban



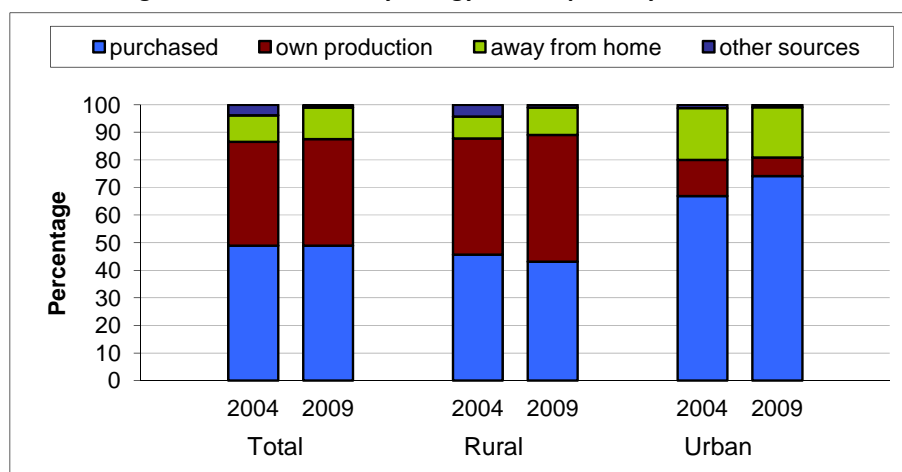
5.3 Food sources and consumption patterns

Households purchase nearly half (48.9 percent) of their food from markets and more than one-third (38.7 percent) is from own production (see Figure 5). In urban areas, market purchases are the source of 74 percent of a household’s food, in comparison to rural areas, where market purchases account for only 43 percent. Own production is the source of 46 percent of the food for rural households, while it accounts for less than 10 percent in urban households. This difference in food sources helps to explain why higher food prices in 2009 affected the undernourishment level of the urban population more than the rural.

⁷ National Institute of Statistics, Food Security Trend Analysis Report, Cambodia Socio-Economic Surveys 2004 and 2009. <http://www.foodsec.org/web/publications/>

⁸ Ibid.

Figure 5: Share of dietary energy consumption by food sources



Dietary diversity in Cambodia has changed from 2004 to 2009. Cambodians ate more fish, meat, eggs and pulses in 2009 as compared to 2004 and consumed less cereals and vegetables. The result of this change in dietary diversity has been that carbohydrate consumption decreased, while the consumption of protein and fat increased. In urban areas, the change in macronutrient consumption from 2004 to 2009 has been more drastic than in rural areas. In urban areas, carbohydrate consumption decreased by 10.5 percent and protein consumption increased by 25.4 percent. In rural areas, carbohydrate consumption decreased by 3 percent and protein consumption increased by 12.3 percent. Fat consumption increased by similar levels in both urban and rural areas (26.7 percent and 24.5 percent, respectively).

The average Cambodian diet has improved from its 2004 level when compared to WHO global recommendations for a balanced diet. Consumption levels of carbohydrates, fats and protein were all within the recommended norms in 2009, while only protein consumption was within the recommended levels in 2004 (Table 6).

Table 6: Share of dietary energy consumption from macro-nutrients

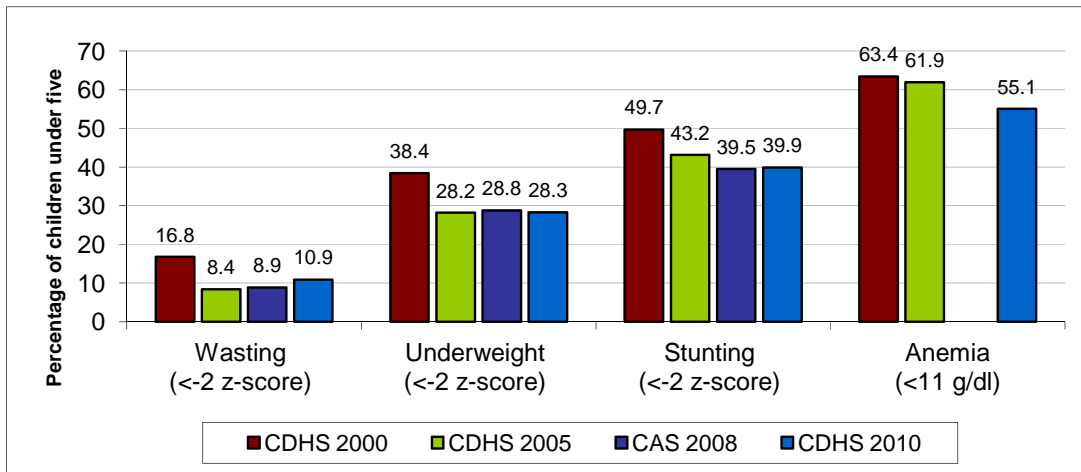
	Share of calories from carbohydrates in total calories (%)	Share of calories from proteins in total calories (%)	Share of calories from proteins in total calories (%)
2004	10.9	12.8	76.3
2009	12.2	15.9	71.9
WHO recommended min.	10.0	15.0	55.0
WHO recommended max.	15.0	30.0	75.0

5.4 Nutrition and mortality

Malnutrition is a significant public health problem in Cambodia and progress in reducing it has stagnated in recent years. Among children under five, 39.9 percent are chronically malnourished (stunted), 28.3 percent are underweight, and 10.9 percent are acutely malnourished (wasted)⁹. The prevalence rate of anaemia in children under five is 55 percent, which is classified as a severe public health problem by WHO. The trends in child malnutrition from 2000 to 2010 are illustrated in Figure 6, below.

⁹ Cambodia Demographic and Health Survey, 2010.

Figure 6: Trends in the prevalence of child malnutrition, Cambodia 2000-2010



Prevalence rates of malnutrition vary by residence (urban/rural), geographic location, wealth quintile and mother’s education. For example, the prevalence of stunting is 40 percent or higher in 12 of the 19 domains (provinces or group of provinces) in the survey. In 2010, for the first time, acute malnutrition rates in urban areas are higher than rural areas. Lack of equity is also apparent: nearly one out of two children born to mothers in the poorest wealth quintile is stunted compared to more than one out of four in the richest wealth quintile.

Child malnutrition is implicated in more than 6 400 child deaths annually. The infant mortality rate is 45 deaths per 1 000 live births and the child mortality rate for children under-five is 54 deaths per 1 000 live births¹⁰. Although both the infant mortality rate and the child mortality rate have decreased steadily since 2000, there are still great differences between the rich and poor. The infant mortality rate among the population in the poorest wealth quintile is 77 deaths per 1 000 live births, which is more than three times the rate among the highest wealth quintile.

Maternal nutrition is another public health concern. On average, one out of every five (19 percent) women is undernourished (with a low Body Mass Index of <18.5 kg/m²); moreover, this figure has remained the same in each of the past three national surveys. Such malnourishment in women of reproductive age increases the risk of maternal mortality (during/after childbirth) and risks intra-uterine growth retardation and developmental delays in their babies. Maternal mortality decreased from 472 deaths/100 000 live births in 2005 to 206 deaths/100 000 live births in 2010, which represents a considerable improvement¹¹.

Improved breastfeeding practices, high coverage of Vitamin A supplementation, widespread use of iodized salt, improved health-seeking behaviour among caregivers for child illness and an increase in births at health facilities are public health success stories and demonstrate that significant results can be achieved with greater investment, action and coordination by the Government and development partners. Building on these achievements, additional efforts are required to address the high levels of child and maternal malnutrition and mortality. There is now a growing consensus that what is most needed is multisectoral, community-based nutrition programmes, focusing on the critical window of opportunity from conception until two years of age, commonly referred to as the first 1 000 days. This requires substantial Government leadership and ownership at the national and sub-national level and well-coordinated support from development partners.

¹⁰ Cambodia Demographic and Health Survey, 2010.

¹¹ Cambodia Demographic and Health Survey, 2010.

Malnutrition has severe negative consequences on the economy as well as on human development. It has been estimated, for example, that Cambodia loses over USD 146 million in GDP annually to vitamin and mineral deficiencies alone¹².

6. IMPACT OF RECENT SHOCKS

6.1 Context

Cambodia is one of the most hazard-prone countries in South-East Asia and is particularly vulnerable to climate shocks. According to the 2010 Asia and Pacific Disaster Report¹³, an estimated 1.7 million (12.2 percent) Cambodians are currently exposed to floods. Cambodia is ranked first among the top 10 countries in the region most exposed to floods in terms of proportion of the population at risk, while it is ranked fifth in terms of absolute numbers at risk. With a large proportion of farmers dependent on alluvial or rain-fed agriculture as their main source of income, natural disasters can have devastating consequences on livelihoods.

Floods frequently occur during the monsoon season from July to October along the Mekong River and the Tonle Sap Lake, which serves as a giant reservoir absorbing large amounts of water from the Mekong and distributing it to central areas of the country. A 2003 study, found that 260 of 1 621 communes were vulnerable to flooding, based on the extent of the last major floods in 2000 and 2001¹⁴. With nearly one-third of rural households in Cambodia currently classified as poor¹⁵, capacities to cope with shocks are low and rural households are particularly vulnerable to the effects of flooding on food consumption, livelihoods, health, assets and well-being.

In September and October 2011, following heavy rains, flooding directly affected 18 out of 24 provinces across Cambodia (Figure 7)¹⁶. The National Committee for Disaster Management (NCDM) of the Royal Government of Cambodia estimates that more than 331 000 households (1.5 million people) have been affected by the floods and 46 500 have been displaced (214 000 people). The floods affected 3 800 km of roads, 1 257 schools, and more than 110 health centres. The impact on agriculture is also of great concern as the Ministry of Agriculture, Forestry and Fisheries reported that 16 percent of rice-planted areas were affected by the floods and 9 percent is confirmed destroyed.

The flood had immediate impact on food security. Rapid assessments noted that the floods disrupted the ability of rural households to access food as a result of direct loss of food stocks, displacement to safe places, and disruption or loss of regular livelihood activities, such as income from casual labour to meet daily food requirements. Based on assessment findings and information from NCDM and other sources, it was estimated that at least 60 000 flood-affected households (approximately 25 percent of those affected) required immediate and short-term food assistance.

¹² Calculations based on the UNICEF and Micronutrient Initiative, Global Progress Report on Vitamin and Mineral Deficiency.

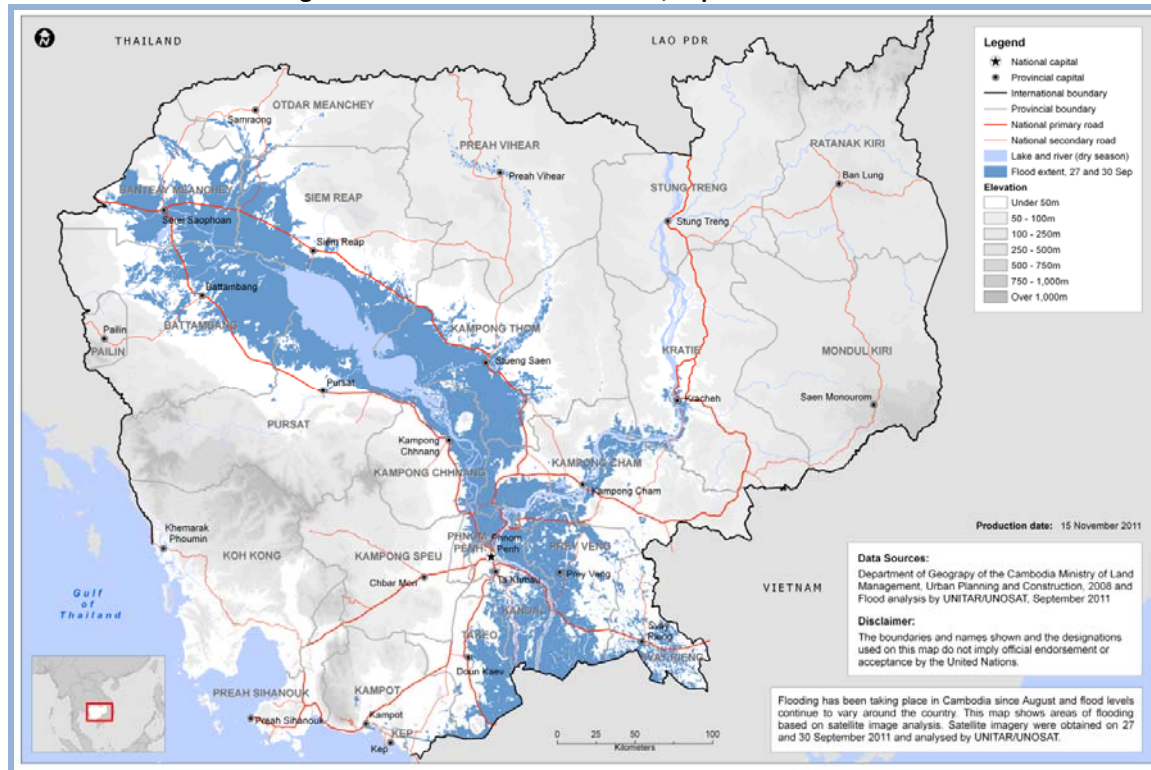
¹³ UNESCAP, 2010.

¹⁴ WFP, NCDM and MoWRAM, Mapping vulnerability to flood and drought in Cambodia, 2003.

¹⁵ Ministry of Planning, Identification of Poor Households Programme.

¹⁶ Flood affected provinces included the following: Banteay Meanchey, Otdar Meanchey, Battambang, Siem Reap, Preah Vihear, Kampot, Pursat, Stung Treng, Kampong Thom, Kratie, Kampong Cham, Kampong Chhnang, Phnom Penh, Pailin, Prey Veng, Svay Rieng, Kandal and Takeo.

Figure 7: Flood extent in Cambodia, September 2011



6.2 Post-flood household survey

WFP, UNICEF, Action Aid, Asian Development Bank, DanChurchAid/ACT Alliance, Save the Children and Danish Red Cross, in collaboration with the National Committee for Disaster Management, conducted a representative survey of 2 500 households in 11 flood-affected provinces in January 2012.

Preliminary results of the survey suggest that flooding had widespread consequences on the population in sampled areas. Nearly 9 percent of households reported being displaced as a result of the floods which is equivalent to 72 000 households. Most of the displaced found shelter within their community (e.g., in a pagoda, school or other public area). Households in the poorest wealth quintile were far more likely to have been displaced than the richest ones. More households in the Tonle Sap ecological zone were displaced than in the Plains ecological zone.

Damage to housing and assets was a consequence of the floods. Eight percent of households reported wall damage due to the floods, but the disparity by wealth quintile is substantial: Nearly one in four (24.3 percent) of households in the poorest wealth quintile reported wall damage compared 0.3 percent of households in the richest ones. Nearly all households (9 out of 10) in the flood extent area who cultivate rice reported that some rice crop was damaged by the flood. Two-thirds of households with livestock reported losing animals as a result of the flood.

The flood affected household income and expenses, with a majority of households (64 percent) reporting a decrease in income since the flood. Households in the poorest wealth quintile, those severely affected by the flood, and those with fewer income earners compared to before the flood were most likely to report that they had seen their income decrease (78, 74, and 75 percent, respectively). Flood-affected households also reported increases in housing, food and loan expenses.

Household expenditures on food varied greatly by wealth group and highlight a significant disparity in dietary diversity and access to food. Households in the poorest wealth quintile used one-third of their food-related expenditures to buy rice and 27 percent to buy meat and fish. By contrast, households in the richest wealth quintiles used just 16 percent of their food-related expenditures to buy rice and close to half (46 percent) to buy meat and fish.

Roughly 40 percent of all households (and 62 percent of the most severely affected households), reported receiving food assistance during or after the flood. Food assistance is likely to have contributed to maintaining household access to food, with 95 percent of households classified as having acceptable food consumption at the time of the survey, e.g., the post-harvest period when household food stocks and income would typically be higher than in other times of the year.

The most common difficulties faced by households since the flood included damage to land/harvest (50 percent), buying food (47 percent), loss of income (46 percent), and medical costs (42 percent). More than 60 percent of households reported often worrying that they did not have enough food to eat in the past 30 days. In addition, 28 percent of households reported not being able to eat preferred foods, 11 percent reported eating fewer types of food, and roughly 4 percent of households reported eating smaller meals (quantity at a given meal), and fewer meals each day.

Indebtedness appears to be one of the most common coping strategies among flood-affected households, particularly for accessing food: 44 percent of all households with a loan (and 60 percent of households in the poorest wealth quintile with a loan), reported the need to purchase food as the main reason for the loan. Microfinance institutions were the most reported source of loans (30 percent), followed by private lenders (24 percent) and banks (20 percent).

At the time of the survey, the nutritional status of children has not deteriorated from pre-crisis levels, and the small increase in recent morbidity (e.g., diarrhoea) appears to be seasonal. Although the situation has not gotten worse since the floods, child malnutrition remains a significant public health problem and ongoing efforts to address this issue should be strengthened and expanded.

While access to food and non-food assistance and credit are likely to have mitigated the impact of the flood on food consumption and nutritional status in the short term, these strategies are not sustainable and problems with household access to food will continue to have medium and long term consequences for the poorest households. These households are at risk of credit default or relying on negative coping strategies, such as reduced quantity and quality of food.

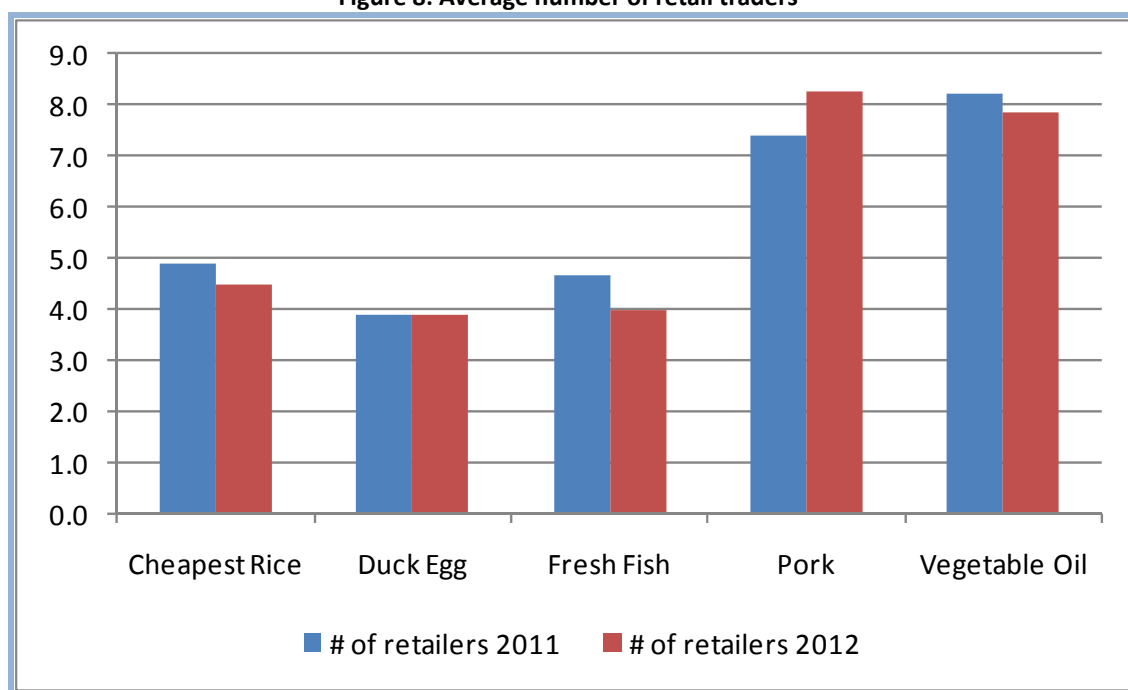
6.3 Post-flood trader survey

In January 2012, trader surveys were conducted in 27 markets across 9 provinces to complement findings of the post-flood household survey. These district and commune markets were identified as the main markets visited by the villagers residing in areas most affected by the floods. Rice price levels in these markets were more or less on par with the provincial and large district markets in the corresponding provinces. Rice prices observed in the provincial and large district markets have returned to normal levels since December 2011. All indications are that rice price in the surveyed villages have also returned to normal levels.

The number of traders (per commodity) in a market is a proxy indicator for the supply situation and market competition. For all of the five commodities surveyed, there was no significant difference in the average number of traders in the markets most affected by the floods before and after the floods indicating that the availability of key food commodities was not diminished by the floods (Figure 8). Also, the fact that there is more than one trader per commodity in the market implies competitive price setting behaviour, which was confirmed during key informant interviews. This contributed to normal price levels for all of the five key commodities in the surveyed markets.

The number of clients that purchased items and total daily sales of traders provide an indication of the level of demand in the market. Of the 43 rice traders surveyed, 27 reported that more clients were purchasing from them on a daily basis compared to the same month last year. However, 29 (of 43) rice traders reported that daily sales have decreased compared to the same month last year. This suggests that, since the floods, more people are depending on the market for rice (hence the higher number of daily clients), but they are purchasing smaller quantities (hence the lower daily sales). This decrease in daily sales – indicating lower demand – explains the rice price differential between the markets located in the most-affected areas and the larger provincial and district markets.

Figure 8: Average number of retail traders



Source: 2012 Post-Flood Survey.

7. FOOD ASSISTANCE NEEDS AND RESPONSE

7.1 Needs

An estimated 4.8 million people in Cambodia (of which 3.7 million reside in rural areas) are undernourished, having a caloric intake below the minimum dietary energy requirements¹⁷.

¹⁷ Calculation based on the 2012 population projection of 14,741,414 by the National Institute of Statistics and a prevalence of 33 percent undernourishment from the following report: National Institute of Statistics, Food Security Trend Analysis Report, Cambodia Socio-Economic Surveys 2004 and 2009. <http://www.foodsec.org/web/publications/>

Furthermore, an estimated 580 000 under-five children are affected by chronic malnutrition, reflecting cumulative effects of inadequate food intake, poor dietary quality and infections¹⁸

In addition to the chronic dimensions of food insecurity and malnutrition, at least 60 000 households in the 18 flood-affected provinces, or roughly 25 percent of flood-affected households in those provinces, were made food insecure in the immediate and short term as a result of the recent floods, according to assessment findings from NCDM and WFP. Many of these, particularly the poorest households, will require additional food and non-food assistance in the recovery and rehabilitation period and lean season prior to the next wet season rice harvest.

7.2 Response

WFP, through its five-year Country Programme (July 2011-June 2016) and Emergency Operation (October 2011-November 2012), reaches some of this caseload with school meals, maternal and child health and nutrition activities, productive assets and livelihood support and emergency food relief. These activities, primarily food-based social safety nets for poor and vulnerable households, support and complement the efforts of the Government and development partners in tackling challenges of chronic and acute food insecurity and malnutrition.

8. RECOMMENDATIONS FOR FOLLOW-UP ACTIONS

8.1 Recommendations related to agriculture

The scope of this report is limited to providing an update of the current food supply and food security situation. However, discussions with 25 key policy/decision makers, and based on the mission's observations, the following recommendations are provided for consideration to help improve the general food security situation and analysis.

1. At the national level, overall food availability in Cambodia is satisfactory based upon current production and trade statistics. However, the significant damages caused by the floods have been detrimental to those affected. Therefore, investment to **rehabilitate the damaged farm infrastructure**, especially irrigation facilities, should be considered a priority in order to re-establish the production system for the sustainable livelihoods of those affected.
2. The current **rice development strategy**, which emphasizes increased production and exports of the commodity, should be examined in light of the full total environmental costs as well as the long term sustainability of the rice sector. Currently, many paddy producing areas rely heavily on monoculture cultivation or continuous paddy-after-paddy production system. Yields are supported by the use of increasing amounts of chemical fertilizers in order to compensate for the deterioration in soil fertility. Hence, it is recommended that adoption of conservation agriculture, crop rotation, diversification and other sustainable production systems be examined.
3. Examine **validity of the various parameters**, particularly post-harvest losses, seed rates, per capita consumption as food, and cross border trade used in the preparation of the food balance sheet with the aim to improve accuracy and reliability of estimates of food supply, utilization and exportable surplus or import requirements.

¹⁸ Calculation based on a 2012 population estimate of 1 459 423 under-five children and prevalence of 39.9 percent stunting from the 2010 Cambodia Demographic and Health Survey.

8.2 Recommendations related to household food security and nutrition

The following actions are recommended to improve household access to food, reduce maternal and child malnutrition and better understand the issue of food security and nutrition in Cambodia:

1. Scale up **targeted social safety nets** to enhance coping capacities, protect assets and increase income and access to food among the poorest and most vulnerable households, including those most affected by the recent floods. Immediate measures to address food and nutritional insecurity could include income transfers, distribution of food and nutrition supplements and provision of employment through expanded public works programmes. Furthermore, scale up Health Equity Funds to improve access to health care services for the poor. These measures are urgent given the increased vulnerability of poor households because of the impact of recent shocks (e.g., floods, high food and fuel prices) and can be implemented within the framework of the Government's newly-endorsed National Social Protection Strategy 2011-2015. Capitalize on the Government's Identification of Poor Households Programme (IDPoor) to target social safety nets to the poorest and most vulnerable households.
2. Launch a **multi-sectoral, community-based nutrition programme** to address the multiple causes of malnutrition by integrating and bringing together a range of nutrition interventions, public health and social welfare services and information to the whole community. The programme should be initiated, designed and overseen by provincial and sub-provincial authorities with technical assistance and joint funding from Government and development partners. It should focus on working directly with and building the capacity of local management structures, such as the commune counsel and commune committee for women and children and community volunteers, such as village health support groups. Such a programme could take advantage of natural linkages between targeted social safety nets, community-based nutrition programmes and local, small-scale agricultural initiatives, such as: providing improved messaging on hygiene and sanitation in conjunction with public works programme to improve sanitation infrastructure or promoting dietary diversification through homestead and community-based food production alongside focused messaging on maternal nutrition and young child feeding and care practices.
3. Support the Nutrition Action Plan of the Ministry of Health National Nutrition Programme (NNP) to enhance, coordinate and scale-up **priority health sector interventions**, including essential nutrition actions such as multiple micronutrient supplementation of young children, management of acute malnutrition, ORS and Zinc treatment for diarrhea, and the nationwide communication campaign on appropriate infant and young child feeding practices.
4. Capitalize on recent multi-year grant funding from GAIN and the United States Department of Agriculture (USDA), to support the National Sub-Committee for Food Fortification to scale up **food fortification initiatives**, such as iron-fortified fish and soya sauce, Vitamin-A fortified palm oil and multiple micronutrient fortification of rice. In addition, building on the successes and lessons learned of national salt iodization, support the development of national food fortification policy and guidelines.
5. Continue and strengthen ongoing **national food security and nutrition monitoring systems** to identify emerging threats and analyze trends over time in Cambodia. Support the mandate of the Council for Agricultural and Rural Development (CARD) to coordinate and disseminate information on food security and nutrition via national forums and online¹⁹ and continue to build the capacity of the food security and nutrition data analysis team, which includes members from CARD, the National Committee for Disaster Management, Ministry of Agriculture, Fisheries and Forestry, Ministry of Water Resources and Meteorology, National Institute of Statistics and Ministry of Health National Nutrition Programme.

¹⁹ CARD's Food security and nutrition information system: <http://www.foodsecurity.gov.kh/>

Annex 1:

Table A1: Cambodia - Comparison between 2011/12 and 2010/11 national aggregate food crops area planted ('000 ha)

Commodities	2010/11			2011/12			% Change 2011/12 over 2010/11		
	Wet Season	Dry Season	Total	Wet Season	Dry Season ^{1/}	Total	Wet Season	Dry Season	Total
Cereals									
Rice	2 391	405	2 796	2 497	472	2 969	4.4	16.6	6.2
Maize	190	24	214	151	24	174	-20.6	-1.1	-18.4
Roots and tubers									
Cassava	189	18	206	366	26	392	94.0	46.3	89.9
Sweet Potatoes	8	4	11	5	3	8	-32.6	-20.0	-28.4
Other food crops									
Mung Bean	53	17	69	48	20	68	-8.0	18.8	-1.6
Soya Bean	101	2	103	69	2	71	-32.1	-7.2	-31.6
Sesame	47	2	48	39	4	43	-16.4	120.5	-11.8
Groundnut	18	2	20	14	3	16	-22.2	5.6	-18.7
Vegetables	28	25	53	30	24	54	5.4	-1.9	1.9

^{1/} Early estimate of Dry Season 2011/12.

Source: Ministry of Agriculture, Forestry and Fisheries, Cambodia.